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NSC-U/SM-127P

July 23, 1976

NSC REVIEW
COMPLETED,
6/26/2003

TO: The Deputy Secretary of Defense
The Assistant to the President for
National Security Affairs
The Director of Central Intelligence
The Chairman of the Joint Chiefs of Staff
The Under Secretary of the Interior
The Under Secretary of Agriculture
The Under Secretary of Commerce
The Under Secretary of Health, Education
and Welfare
The Under Secretary of Housing and Urban
Development
The Under Secretary of Transportation
The Administrator, Energy Research and
Development Administration
The Administrator, Environmental Protection
Agency
The Administrator, National Aeronautics and
Space Administration
The Director, National Science Foundation
The Director, United States Information
Agency
The Chairman, Council on Environmental
Quality

SUBJECT: US-USSR Bilateral Specialized Agreements --
Critical Assessment and October-December 1975
Quarterly Report

REF: NSC-U/SM-127N

Due to the number of comments received on the referenced draft Memorandum for the President, substantial revisions have been made in that document. Attached for your final comment and/or concurrence is a copy of the revised Memorandum for the President; the quarterly report and the critical assessment will not be recirculated.


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Editorial comments on the attached memorandum may be telephoned to Mrs. Sandra Humphrey, 632-8957; substantive comments should be addressed to the Chairman in writing. Your response is requested by c.o.b. Monday, August 2.


Rutherford M. Poats
Acting Staff Director

Attachment:

As stated

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DRAFT MEMORANDUM FOR THE PRESIDENT

SUBJECT: NSC Critical Assessment and October-December 1975
Quarterly Report for the US-USSR Specialized
Bilateral Cooperative Agreements

REF: NSC Memorandum dated October 16, 1975

This memorandum transmits the Critical Assessment of the eleven US-USSR Specialized Bilateral Cooperative Agreements since their inception, and the Fourth Quarter Report on the Agreements for October-December 1975. The memorandum provides an overview of the Critical Assessment and initial US agency views on Chairman Kosygin's October 1975 proposals for major US-USSR cooperative projects.

Summary

The Cooperative Agreements, signed at the 1972, 1973, and 1974 Summits, represent a part of the broad overall framework of our policy aimed at relaxing tensions with the Soviet Union. These Agreements were conceived as a political act with the technical objectives initially spelled out in general terms because we realized, inter alia, much exploratory work would be necessary to define projects of genuine mutual interest.

We are making satisfactory progress toward our political objectives under the Cooperative Agreements. High-level Soviet officials in ministries and agencies are actively participating in their planning and implementation and thereby developing a

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vested interest in this cooperation. We are also gaining access to a wide range of officials and institutions. Possible payoff in terms of influencing Soviet political behavior will, of course, be apparent only over the long run.

At the same time, we have made clear to the Soviets that cooperation under these Agreements cannot proceed outside the framework of our overall relationship. Soviet actions in Angola led us to postpone as inappropriate for the circumstances two high-level Joint Committee meetings--Energy and Housing--under the Cooperative Agreements. We also advised the Soviets that we were not prepared to discuss specific dates for Joint Committee meetings, including those tentatively scheduled for this fall. This action on our part represents the first occasion where the Soviets may perceive a connection between their behavior and our ability to carry on with these cooperative efforts.

We see balanced technical benefits in the long term as essential for the realization of our political objectives, and for assuring domestic support for the Agreements. We are making modest progress toward obtaining technical benefits, resulting from joint work on solving common problems, access to Soviet technology, and an exchange of data.

In this connection we wish to underline that we recognize that, because of fundamental asymmetries between our open society and the more closed Soviet society, the Soviets have always had relatively better access to our technology than we have had to theirs. The framework created by the Agreements is unique in that for the first time we have begun to gain open access to Soviet technology, access we did not have before the Agreements. To the extent the Soviets become used to this development, we are hopeful that it will create confidence in the cooperative process and add to its momentum.

We are gaining useful scientific/technical data and information, the quality and quantity of which appears to be improving. However, the flow of Soviet data is uneven, and we will continue to monitor programs closely to insure reciprocity, equality, and mutual benefit.

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At the same time, there has been very little actual exchange of technology under the Agreements. We are exercising care to insure that the US technology being transferred under the Agreements is limited to what we intend in accordance with plans calling for receipt of comparable Soviet technology in return.

In contrast with extensive US-Soviet commercial contacts developed through private channels, little commercial activity has developed from activities under these Agreements. The Soviets continue to cite work under the Oceanography and Environmental Agreements as reasons why we should sell them certain computer systems.

The biggest commercial disappointment to date was the Soviet decision not to purchase US-manufactured Air Traffic Control (ATC) equipment as part of cooperation under the Transportation Agreement. DOD notes that, in spite of commercial disappointment, the USSR did not acquire sensitive high-level technology potentially useful to updating its automated air defense system. The other ^{participating} / agencies are puzzled by this view. A final ATC proposal was never prepared for consideration by our export control agencies. Had such a proposal been made, DOD would have been in a position to recommend against any transfer of sensitive technology under export control measures.

The US technical agencies involved assess the magnitude of the flow of technical benefits at the present time for the various Agreements as modest, but roughly equal to both sides, particularly as regards areas of interest to us. DOD, however, believes that the flow has not been equal to both sides.

-- For the 1972 Agreements: In the Science and Technology Agreement, there is a general emphasis on long-term basic research activities; benefits to both sides have been modest so far but roughly equal. Because of our initial forthcomingness, the Soviets have gained more than we in some but not all projects under the Environmental Protection Agreement; but their gain is also ours to the extent it reduces their adverse impact on the

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world environment. We are substantially even in the Space and Health Agreements. The initial period of validity of the 1972 Agreements ends in May 1977, and decisions concerning their renewal should be made by November 1976. A technical review of the five Agreements whose period of validity ends in 1977 is now underway under the supervision of the President's Science Adviser.

--For the 1973 Agreements: There is an imbalance in the Soviet favor in the Agricultural Agreement as long as the Soviets refuse to provide the forward estimates we desire. Concrete benefits are flowing from only two projects under the Oceans Agreement, but these are balanced. Under the Transportation Agreement, benefits are just beginning to flow to both sides in a few areas. There is mixed success in the Atomic Energy Agreement, with the Soviets benefiting slightly more than the US in two program areas but with significant mutual benefits emanating from joint work on controlled thermonuclear reactors (CTR).

--For the 1974 Agreements: In the Energy Agreement, benefits to each side are about equal under the magnetohydrodynamics (MHD) project, the only project to reach a stage of considerable activity. The Housing and Other Construction Agreement has begun to move into an active organizational stage.

In summary, while we have achieved some concrete benefits to date, substantial benefits are still some time off, and we must exercise care that benefits will be reciprocal. Moreover,

scientific/technical cooperation with the Soviets is not in all cases a self-sustaining process, and we believe that both sides recognize that cooperation continues to be related to political factors outside the scientific and technical framework we have established. DOD, however, believes the USSR may have received valuable data and technology which could be detrimental to our national security, but the other participating agencies point out that DOD has presented no facts to back up this assertion.

Objectives

In implementing these Cooperative Agreements, we and the Soviets appear to have similar objectives but different priorities. However, our different priorities for these objectives do not appear to have kept cooperation from developing momentum.

United States: We signed the Cooperative Agreements at the 1972, 1973, and 1974 Summits as a political act of importance for the overall framework of our policy of relaxing tensions with the Soviet Union. Our initial political and technical objectives under the Agreements were spelled out only in general terms, in part because we realized much exploratory work would be necessary to define projects of genuine mutual interest. But, increasingly as activities under each of the Agreements moved from exploratory exchanges to actual joint work, it became clear that the probability of achieving our political objectives would be enhanced if we took steps to insure that our technical objectives would be met. Currently, we believe we are in a period of transition which

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requires an increasing precision in the definition of our technical objectives. The domestic agencies responsible for implementing their respective agreements posit their involvement in technical cooperation with the Soviets on the strength of the technical benefits which will contribute to the solution of domestic problems.

In general, our overall objectives under the Agreements are as follows:

(1) To broaden and deepen our relations with the Soviet Union, creating an interlocking framework of obligations and incentives which could foster restraint in Soviet behavior.

(2) To obtain technical benefits through sound programs of mutually beneficial cooperation involving long-term joint work.

(3) To expand, intensify, and regularize access to an increasing number of Soviet institutions, organizations, individuals, and geographic areas in support of our political objectives and in pursuit of technical benefits.

(4) To improve our understanding of Soviet scientific and technical capabilities, institutions, and personalities, gaining, in the process, insights into how the Soviet bureaucratic system actually functions.

(5) To provide opportunities for private sector involvement that can result in US economic benefits without adverse impact on national security.

We believe there is an interdependency among these objectives which requires that they be viewed as a whole.

Politically, we hope that in the Soviet Union new incentives can be cultivated and brought to bear on decision makers, more encouraging them to act along lines/consonant with our interests. We have pursued this objective through the mechanisms of the Joint Committee structures and through joint cooperative work projects and long-term research of mutual interest and benefit.

We seek to gain access to broad, influential areas of the Soviet bureaucratic and scientific establishment and to assure access to important research institutions necessary for the implementation of specific projects. In general, we want to stimulate more forthcoming behavior on the part of Soviet officials on professional, substantive issues, as well as to enable key officials and specialists on both sides to gain a better, more accurate appreciation of each other's societies. We would also hope that, as a result of exposure to our system, Soviets at a number of levels will grow to see merits in how a decentralized, pluralist society handles the challenges of our time.

We have recognized that US technology is generally more advanced than Soviet technology, but we have sought to select and carefully define topics for cooperation with good potential for balanced two-way flow of benefits. Thus far, much of the activity under the Agreements has been directed toward defining projects in which both sides could obtain mutual benefits. As the process continues, we expect there to be an increased flow

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of technical benefits to the American scientific community.

Our commercial/economic objective has been subsidiary to our political and technical objectives. In most instances, the projects selected for joint work are of a research rather than production-oriented nature. Wherever appropriate, however, we have sought to encourage the participation of the private sector. Our intention in doing so is to provide the opportunity for contact that could later be followed up independently by the private sector.

Soviet Union: We assume that Soviet objectives are probably ranked along the following lines:

- (1) To gain access to US scientific, technical, and managerial knowledge to facilitate development of Soviet applied technology and the solving of production problems in certain sectors of their economy.
- (2) To obtain technologically advanced US production equipment and instrumentation.
- (3) To gain access to the widest possible range of US facilities, government and private, so as to increase their knowledge of US basic research activities and to be in a better position to determine what kinds of advanced technology they may be able to obtain.
- (4) To create the impression, at least in other parts of the world, that they are our technological equal and to show that, as a technical/scientific as well as military superpower, they are prepared to cooperate from strength, not weakness.

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(5) To nourish Western proclivities to want a relaxation of tensions by promoting the idea that detente is a two-way street and that we have much to gain by treating them as an equal. .

Balance of Benefits

In attempting to assess the benefits we have received to date, we have used the following criteria, which are, however, largely subjective. Our political benefits, expressed in general terms, are not easily quantifiable and cannot be judged on a short-term basis. They would include: the creation of an interlocking network of obligations and incentives which--in the long term--could foster restraint in Soviet behavior; easy access to important Soviet scientific/managerial officials and establishments; relaxation in the Soviet practice of closing cities, regions, and specific institutions to access by foreigners; an increased flow of useful information between specialists without a political filter; an easier and more normal dialogue between scientists on substantive matters.

The technical benefits we could derive from cooperation include: contributions to the solution of common problems; access to some Soviet technology more advanced than ours; insights into an approach to a problem we would not have had sooner by working independently ; data and information of use to us; or monetary savings from sharing in the work of a project with the Soviets.

Many of the Agreements have only recently left the exploratory

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stage. Therefore, we need more experience in dealing with the Soviets in order to determine in which types of cooperative activities they are most likely to be forthcoming in a manner beneficial to us. Thus we have been unable so far to assign firm priorities for projects of special interest to us in terms of the potential gain. Under the various agreements only preliminary priorities have been set for the specific areas of electrometallurgy, earthquake prediction, the now-completed Apollo-Soyuz project, artificial heart, agricultural forward estimates, deep-sea drilling, civil aviation, CTR, energy information, and MHD.

As our knowledge of Soviet strengths improves as a result of the cooperative activity under the Agreements, we intend to establish firm priorities and to focus our own efforts towards those areas where we can benefit the most. We should point out, therefore, that without identifying at least our own priorities either within an Agreement or across Agreements, we can only measure in approximate terms relative benefits from cooperation in particular projects.

We believe it will be difficult to devise criteria by which to judge changes in Soviet political behavior as a result of their participation in the Agreements. So far we cannot point to any clear-cut evidence where we have been successful in having the Soviets take positions consonant with our interests, except in technical fora, such as WHO, ICAO, and the International Whaling

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Commission. It is possible that in these fora our mutual interests were coincidental. It is in such fora, however, where a political spin-off is most likely.

In a more immediate sense, we have gained access to significant levels of the Soviet scientific/government bureaucracy. Three of the Soviet co-chairmen of Joint Committees are members of the Party's Central Committee, the second most important body after the Politburo; other Soviet co-chairmen occupy policy-level positions in their ministries. Although differences and difficulties exist, dialogue has become easier and more constructive. There also seems to be developing a greater appreciation and understanding of each other's outlooks. Similarly, as specialists meet and get over the initial "feeling out" stages, professional dialogue is becoming more productive.

We are making progress on access to important institutions and closed zones and on data exchange, but the picture is a mixed one. American specialists have visited some closed cities in connection with cooperative projects, but have been denied access to some facilities. In general, projects involving cold-weather work have gone slowly, probably in large part because of Soviet security considerations.

Apart from the continuing Soviet failure to provide forward estimates for major agricultural commodities, there has been an improvement in data and information exchange under the Agreements. In large part this has been due to US unwillingness to continue to supply data to the Soviets without reciprocal action.

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Progress towards achieving our scientific and technical objective to obtain technical benefits varies greatly from

Agreement to Agreement and from project to project. In most cases benefits to each side have been only modest. In a few acceptable cases benefits thus far have tended to favor the Soviets, but in the majority of fields each side has benefited about equally, and particularly in those fields of interest to us.

modest
We have experienced/economic benefits in terms of sales facilitated by cooperative activities. We judge that Soviet economic benefits have so far been limited. We have not identified any Soviet sales resulting from cooperative activities and we have observed difficulties the Soviets experience in making practical application of the technical information they receive from us.

There is clear evidence of a basis being developed for future substantial direct and indirect technical benefits to both sides. But there are numerous difficulties, of an administrative as well as substantive nature, so we should be careful not to exaggerate the near-term potential. At the same time, as we move away from the initial exploratory phase and into actual joint work, it will become increasingly important to monitor closely the balance of benefits from the Agreements. The NSC has tasked the State Department and the President's Science Adviser with the requirement of monitoring implementation of the Agreements.

For each Agreement we assess the current balance of technical benefits as follows:

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Science and Technology (1972): In most areas under this Agreement, there has been substantial progress in developing projects of a mutually beneficial nature, and modest technical benefits being received by each side are roughly in balance. Nonetheless, in one area, Physics, nothing has been done, and little has come out of the Standardization area. In Microbiology, it may develop that the probable technical results for us are not worth the considerable effort being expended. Benefits from the Chemical Catalysis program are about even, and we expect to gain from Soviet advances in Electrometallurgy. In the Applications of Computers area, the Soviets are currently learning about American management techniques and we are learning about Soviet state planning techniques, particularly as regards the management of large systems, as in their GOSPLAN. DOD believes that the Soviets have benefited more from our management techniques, which are more readily applicable to production processes, than we have from planning techniques designed for the centralized Soviet system.

Environmental Protection (1972): Any measurement of the balance of benefits should take into consideration the fact that the Environmental Agreement serves an important US policy objective: to induce the Soviets to reduce any of their adverse im-
pacts on the world environment. Assessing technical benefits more narrowly, however, the Soviets are probably benefiting more than we are in many of the eleven project areas, partly because

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of our initiatives. On the other hand, in some projects--Water Pollution, for example--the balance is about equal, and in Earthquake Prediction, the balance seems presently to be in our favor. We might also gain from seeing how the Soviets approach problems with less sophisticated technology.

Public Health (1972): We are presently benefiting from a broadened data base, and from savings in funds and manpower devoted to clinical investigations. However, the nature of joint cooperative research is long-range and will produce information fully available for the benefit of the health of the population of both sides. Thus, in this sense, each side will benefit equally. We were initially concerned about potential imbalance resulting from poor methodology and more limited access to technical equipment on the Soviet side. However, the Soviets are now gaining methodological parity with US researchers, an improvement perhaps stimulated by their involvement in cooperation with the US.

Space (1972): At this stage both we and the Soviets are benefiting from space cooperation to substantially the same extent. Specific US benefits include cost reductions in design and flight test of an androgynous docking system replacing the older probe and drogue system used in the Apollo program for the post-Apollo era, insights into the Soviet space program and access to Soviet facilities, lunar samples from areas not visited by Apollo crews, early access to data from Soviet planetary missions,

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detailed biomedical data on Soviet manned flight experience, flight of US biological experiments on Cosmos-782, and data from Soviet meteorological rocket soundings not otherwise available. Soviet benefits include the cost-sharing aspects of ASTP, the exchange of biomedical and planetary data, lunar samples from the Apollo program, and an opportunity to give the Third World an impression of Soviet equality with the US. Manned space flight, study of the natural environment, and space biology and medicine are the main areas where cooperation is expected to continue to be mutually beneficial.

Transportation (1973): The very modest technical benefits so far have been balanced. Current technical benefits to the US have been limited largely to information about Soviet approaches to various transportation problems such as railroad maintenance, where we have received ten concrete railroad ties for testing. Cooperation in ice transiting technology, which is of high priority interest to us, may result in benefit to us at a later stage. The Soviets have received for testing and possible purchase an automatic railroad coupling device from us but it is not yet clear that it will be of use to them. They have also agreed to test a US automotive safety device. We anticipate that continued cooperation under this Agreement may also lead to lower transportation construction costs, to improved railroad maintenance, and to Soviet support for using US equipment to standardize a worldwide microwave landing system and, possibly, a merchant marine selective calling system.

World Oceans (1973): Cooperation in some areas of this Agreement has been slow to get organized and under way, partly because of unclear lines of responsibility on the Soviet side. Under the Ocean Currents and Dynamics and the Geology, Geophysics, and Geochemistry areas, the scientific benefits obtained so far have been flowing about equally in both directions. We are benefiting from the addition of significant Soviet ship and scientist time to programs of interest to us; the Soviets benefit by carrying out oceanographic programs of interest to them in association with superior US oceanographic methodology. In other areas, it is still too soon to assess relative benefits. Benefits from cooperation are expected to be realized only in the later stages of the Agreement's term, e.g., in 1977-78, because of the necessity for extensive and detailed planning of field investigations inherent in the Agreement.

Atomic Energy (1973): The balance of technical benefits has been somewhat mixed, with the Soviets so far gaining slightly more than the US. The Soviets have probably gained more in the Fundamental Properties of Matter area because of access to our Fermilab accelerator, though Soviet scientists have brought some valuable equipment and expertise to this lab. In the Controlled Thermonuclear Fusion area, the balance has swung from being somewhat in favor of the Soviets a year ago to an approximate equality of benefits now, particularly as we learn more about Soviet approaches to controlling plasma flow. The balance in Fast Breeder

Reactors appears slightly in favor of the Soviets; the program is developing slowly because of Soviet restrictions on access and because the possibilities for substantive cooperation have only recently been ascertained.

Agriculture (1973): There is some imbalance in favor of the Soviets, resulting in part from our forthcoming responses to Soviet interests in Agriculture Research and Technology, and from Soviet unwillingness to supply data on forward estimates of commodity production, utilization, and trade. Cooperative activities in the Research and Technology field have not yet progressed enough to make the imbalance unacceptable to the US, but we want to consider steps to bring about a better balance and to gain relatively more technical benefits in the future. Specifically, we would consider cutting back on cooperation in the Agricultural Sciences projects, from which the Soviets gain most, until the Soviets are more forthcoming in providing forward estimates.

Energy (1974): It is premature to draw a balance sheet on technical benefits received, except in Magnetohydrodynamics (MHD), where cooperative efforts, from joint work to data exchange, are benefiting both sides about equally. We initially conceived of this Agreement as one balancing our interest in Soviet energy information with Soviet interest in US energy technology. It is too soon to assess Soviet willingness to be forthcoming with data needed by FEA, but planning is proceeding in areas where both sides see prospects for mutual benefits of a technological nature. We

do not have great expectations in the information area and we are insisting on balanced benefits in the technology projects.

Housing and Construction (1974): While it is also too early to judge the balance of benefits under this Agreement, it has been clear from the beginning that the Soviets could gain in some areas, and we in others. Working group meetings have occurred in each of the six areas covered by the Agreement. At this stage we believe we will benefit more from projects under the Building for Extreme Climates Working Group and the Construction for Seismic Areas Working Group than from other working group projects.

Implementation

Implementation of the Agreements has been and is a pragmatic process, as officials and specialists have sought to define and establish the technical/scientific areas of mutual interest and the administrative procedures and political framework for cooperative work. The process has been a complicated one, involving in many instances persons--both within government and in the private sector--who were initially unfamiliar with the state or level of scientific achievement in the Soviet Union and the political/bureaucratic structure there.

Joint Work: Joint work may consist of exchanges of scientists/specialists working in each other's laboratories or ships, independent work on a mutually-agreed problem and comparison of results, the testing and use of components and equipment, or joint

seminars and the publication of joint papers. Of the 141 projects identified for joint work under the eleven agreements, 89 projects are actually in that stage. Other projects are close to moving to the stage of joint work.

We have been unable to discern any clear pattern why some projects have moved more quickly than others to joint work, but in the absence of easily identifiable priority projects, complementarity of levels of research development may provide some of the answer. Energetic, efficient project leaders would appear to be an important factor. At the same time, slow progress in cold weather areas and some data exchange projects, such as forward estimates on agricultural production, utilization, and trade, and in science policy, probably reflect Soviet economic and security sensitivities.

Soviet Bureaucracy: The experience we have gained has brought home to us the difficulties in operating through the vast, ponderous, over-centralized Soviet bureaucracy. However, we have noted a difference in the way the Soviet bureaucracy handles science projects and technology projects. The former, where scientists may have a tendency to be less bureaucratic, appear to get started quickly. But the Soviet Academy of Sciences has played a major braking role, perhaps to insure that Soviet emphasis on theory capitalizes adequately on US strengths in instrumentation and data collection. Thus, these projects appear to us to be poorly coordinated on the Soviet side. In contrast, technology projects, run mostly under the supervision of the State Committee

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for Science and Technology, have been slow to get going, but once launched, they are much better coordinated.

The overly-centralized Soviet bureaucracy and jurisdictional jealousies between Soviet Ministries have caused problems in various projects. Some Soviet protestations of the difficulties caused by jurisdictional problems in developing collaboration may be genuine; but in other instances, such as under the Agricultural Agreement, it appears to be a convenient Soviet device to refrain from doing something that they do not believe ^{in their} is/interest. And, while virtually all US executive agencies state they are learning to cope with the Soviet bureaucracy, there is need on our side for a more systematic exchange of information, views, and experience on how to deal effectively with the ^{Soviet} bureaucracy.

Access: Security considerations, generally in the form of travel controls, have been obstacles to improved access for us, since extensive Soviet closed areas are much more of an obstacle to us than our selected installation restrictions are to the Soviets. However, in general we perceive a gradual if uneven improvement in our access to Soviet institutions and individuals. We have also begun to gain access to new regions of the USSR, such as Eastern Siberia, Sakhalin, Magadan, and the Sino-Soviet border area in Central Asia, but our long-standing efforts to get to Kamchatka have not yet met with success.

Both sides remain reluctant to show facilities where there are new processes not yet protected by patents. US firms are

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reluctant to reveal proprietary information, and Office of Export Administration regulations have been carefully observed to prevent the export of strategic US technology data. Nevertheless, DOD is concerned that valuable technology not adequately covered by export controls may have been obtained by the Soviets which could be detrimental to our security interests. The other participating agencies point out that the adequacy of export controls on technology poses questions that go beyond an evaluation of the exchange programs under the cooperative agreements.

/ Such questions could also be asked were there no cooperative agreements.

The quality of Soviet participants has been generally good; at the same time, in a few instances, it seems apparent that for political reasons some Soviet scientists have not been able to travel to the US for Agreement-related work. We suspect this is the main reason the Physics area of the Science and Technology Agreement has not gotten off the ground.

Private Sector: The US private sector has been involved in the Agreements from the beginning through membership on Joint Committees, working and project groups, through participation in US delegations, by hosting visiting Soviet delegations and by receiving information resulting from cooperative activity. When a given area of technology reaches the stage where it can be commercially exploited, such as underground coal gasification, it is de-emphasized in the inter-governmental program.

It is our policy to encourage commercially attractive transactions involving non-strategic technology. Consistent with this policy,

Article IV provisions of the Science and Technology Agreement, and similar articles in the other Agreements, call for facilitation of technology exchange agreements. Nearly fifty US

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companies have signed their own cooperative agreements with the Soviets, citing Article IV of the Science and Technology Agreement. So far, not much technology has been transferred under the private agreements, which are statements of intent rather than obligations, and there have been few export license applications.

Commercially compensated transfers of technology, not directly related to the cooperative agreements, continue in both directions. US firms have sold to the Soviets twelve licenses for the use of US technology. This compares with 26 license agreements where US firms have purchased Soviet technology. The technology purchased by US firms has been in fields of considerable interest to us, such as metallurgy, mining, medicine, underground coal gasification, oil recovery, and particle accelerators. In the trade of commodities incorporating or accompanied by technology, US sales have been far higher than US purchases.

So far only modest US sales have developed from cooperative activities. However, applications for US exports to the USSR of computers in connection with programs under the Oceans and Environmental Agreements are currently under review.

Administrative Problems: Difficulties with delayed communications, arranging itineraries and scheduling of visits continue to be common to all the Agreements.

Funding of cooperative programs has been handled in participating agency budgets with no serious problem yet through existing line items for either domestic work or other international cooperative programs. However, the growing costs involved are putting

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increased pressure on some agency budgets. Travel, representation, and translation costs are becoming a problem under some Agreements, and could seriously impede substantive work. Although the Chairman of the USC asked the executive agencies in November to provide in writing specifics of their funding problems, only a few have done so.

Kosygin Proposal for Major Projects

During the October 1975 meeting in Moscow of the US-USSR Joint Commission on Science and Technology, US Co-Chairman H. Guyford Stever paid a courtesy call on Premier Kosygin. Kosygin proposed to Stever that the US and the USSR now focus their efforts on developing major joint projects that might draw public attention to the fact of US-Soviet cooperation. As illustrative examples, Kosygin cited an electrometallurgy facility, a hospital, a model seed farm, and an unspecified transportation project. These could fall under the Science and Technology, Health, Agriculture, and Transportation Agreements, respectively. Executive agencies have considered Kosygin's proposals and have reached the following preliminary conclusions:

Electrometallurgy: Joint development of furnaces under consideration as an activity in the Electroslog project of the Science and Technology Agreement's Electrometallurgy area might be a promising endeavor; but this would depend upon the extent to which US private industry would want to participate, and this, in turn, cannot be ascertained until we have a better idea of,

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Soviet performance in already-agreed Electrometallurgy joint projects. We must also consider the military implications of work in this area.

Hospital: A joint hospital project is not considered to be a useful way to expand collaborative activities in health. Expansion of the fundamental epidemiological and clinical aspects of cancer and heart disease would appear to offer much greater potential.

Model Farm: Construction and operation of a model farm poses US legal and financial problems, and US control could not be exercised to a degree which would insure success. However, as alternatives, tentative plans for joint research in wind erosion and crop production on semi-arid lands could eventually result in suitable projects.

Transportation: We are currently exploring, on a tentative and preliminary basis, two ideas for possible major joint projects: ice transiting operations and the use of satellites for maritime communications.

Other Possibilities: Major topics in areas not related to Kosygin's four examples might also be considered. For instance, with additional funding, existing cooperation in Earthquake Prediction under the Environmental Agreement might be intensified and expanded to improve the safety and livelihood of people living in earthquake-prone areas. In the Space area, joint operations involving the US space shuttle and Soviet spacecraft might be a suitable follow-on to the successful Apollo-Soyuz program:

In the Construction area, an astrodome for the 1980 Moscow Olympics or a jointly planned and constructed new town might be explored, according to HUD.

In the Energy area, after further study of major technical, financial, and political issues, we might wish to propose joint design and construction of commercial magnetohydrodynamic power stations in each country. In the Atomic Energy area, a major project could be the testing of a US Clinch River Breeder Reactor (CRBR) prototype steam generator evaporator at CRBR pressure and temperature conditions in the Soviet breeder reactor (BN 350) spare loop at Shevchenko. A US tentative proposal for such a joint project is awaiting Soviet response.

In sum, we might find it desirable, after further detailed consideration of various options, to make our own proposals for major projects at a politically propitious time. While an important factor in our decision should be Soviet performance in promising existing joint projects, the nature of the kind of project the Soviets have in mind, the degree of possible US Government/private sector participation, military implications, and the costs involved suggest that the state of US-Soviet relations would be the overriding consideration.

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